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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,163	12/21/2000	A. Michael Straub	INSL0023	1233

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EXAMINER

MIS, DAVID C

ART UNIT PAPER NUMBER

2817

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/747,163

Applicant(s)

STRAUB ET AL.

Examiner

David Mis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-15 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 3-12,20 and 21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5, 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. The disclosure is objected to because of the following informalities: On page 1, line 10, the blank should be filled in.

Appropriate correction is required.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 16-18 are rejected under 35 U.S.C. 102(e.) as being clearly anticipated by Kuwano.

Kuwano disclosed a clock generator LO providing a clock signal, a clock splitter – the node after LO, first and second phase shifting legs following the two branches from the node after LO, the two phase shifting legs producing quarter phase shifted signals (See the title: 90 – Degree Phase Shifter.), and a phase detector 32 coupled to the first and second phase shifting networks and asserting a phase error signal (to 12B and 22B) used to control the phase shifting networks (See column 6, lines 26 – 37.), and a combiner (nodes at the emitters of transistors 12A and 22A) coupled to the phase

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detector (via 12B and 22B) and to the clock splitter (via 11 and 21) and adjusting the first and second clock signals based on the phase error signals (from 32), and producing quadrature carrier signals used for detecting, which was done either at RF or IF (See column 1, lines 4-8.)

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 1, 2, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bojer in view of Banu et al.

Bojer disclosed a quadrature mixer – which used differential signals in the oscillator paths. The Bojer mixer included a “phase splitter” circuit 42, in “Lucent Technologies, Inc.” (the assignee) lexicography. Banu et al disclosed a “Lucent Technologies, Inc.” circuit 100, also a phase splitting circuit, and also using differential signals (see figure 2), and also producing quadrature related signals (see column 4, lines 15-19). It was probably the case that a the Banu et al phase splitter was that used by Bojer, and it was at least obvious to one of ordinary skill in the art that the Banu et al phase splitter may have been incorporated in the Bojer mixer. Bojer disclosed that 42 splits LO into differential quadrature related signals (see column 3, lines 32-35). Since LO appears to be single ended in figure 2, Bojer must have converted it to differential form in circuit 42 for the Banu et al phase splitter, and it was obvious to one of ordinary skill in the art to do so. And “motivated” to provide a circuit to fit block 42, and Banu et al is the only reference discovered so far that could. The “quadrature generator of Banu et al is circuit 202, 228, which is the LPF and HPF circuit. The “phase error detector” of Banu et al is circuit 262, 264, 260 which compares peak values on 122 and 126 and adjusts the time constants of the phase shifting circuit by providing Vc which controls the gates of MOS resistors 206, 218, 232,

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244 (see column 4, line 65 to column 5, line 26), and 260 also amplifies the feedback signal. In Banu et al, the differential oscillating signal is converted to a pair of differential clock signals by 103, 105 and the nodes thereafter.

7. Claims 3-12 and 20-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Mis whose telephone number is 7033084907. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 7033084909. The fax phone numbers for the organization where this application or proceeding is assigned are 7038729318 for regular communications and 7038729319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 7033080956.

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David Mis
Primary Examiner
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June 12, 2003